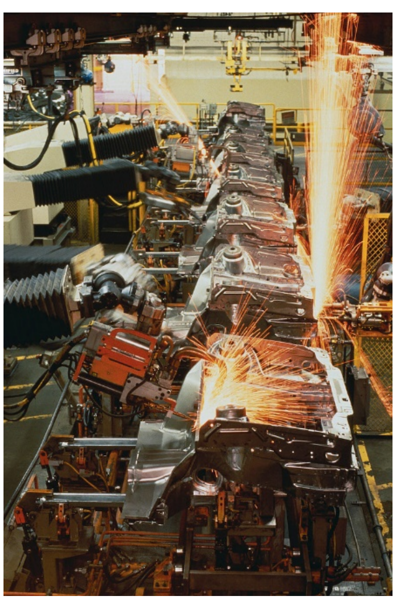

OKLAHOMA
Economic Indicators

September 2023

OKLAHOMA
ECONOMIC INDICATORS

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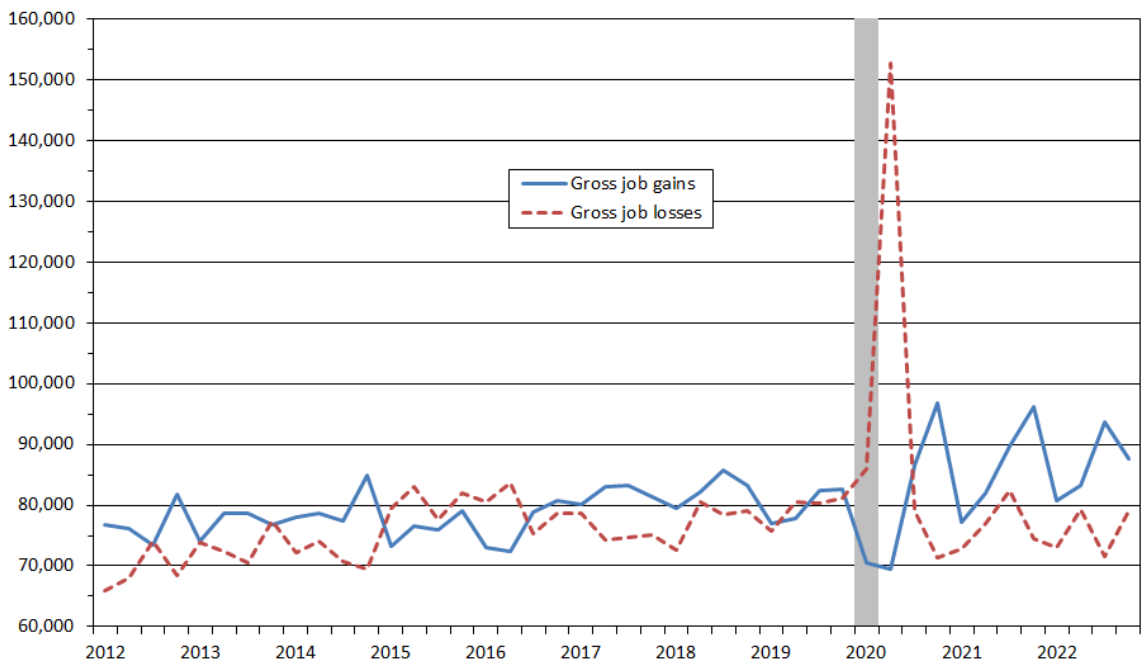
OKLAHOMA BUSINESS EMPLOYMENT DYNAMICS: 4th Quarter 2022

Gross Job Gains and Gross Job Losses: 4th Quarter 2022

From September 2022 to December 2022, gross job gains from opening and expanding private-sector establishments in Oklahoma totaled 87,704, a decrease of 5,891 jobs from the previous quarter. Over this period, gross job losses from closing and contracting private-sector establishments were 79,138, an increase of 7,623 jobs from the previous quarter, according to the Oklahoma Employment Security Commission, Economic Research and Analysis Division, and the U.S. Bureau of Labor Statistics, (see Chart 1, below and Table 1, page 6). The difference between the number of gross job gains and the number of gross job losses yielded a net employment gain of 8,566 jobs in Oklahoma's private sector during the 4th quarter of 2022.

Chart 1

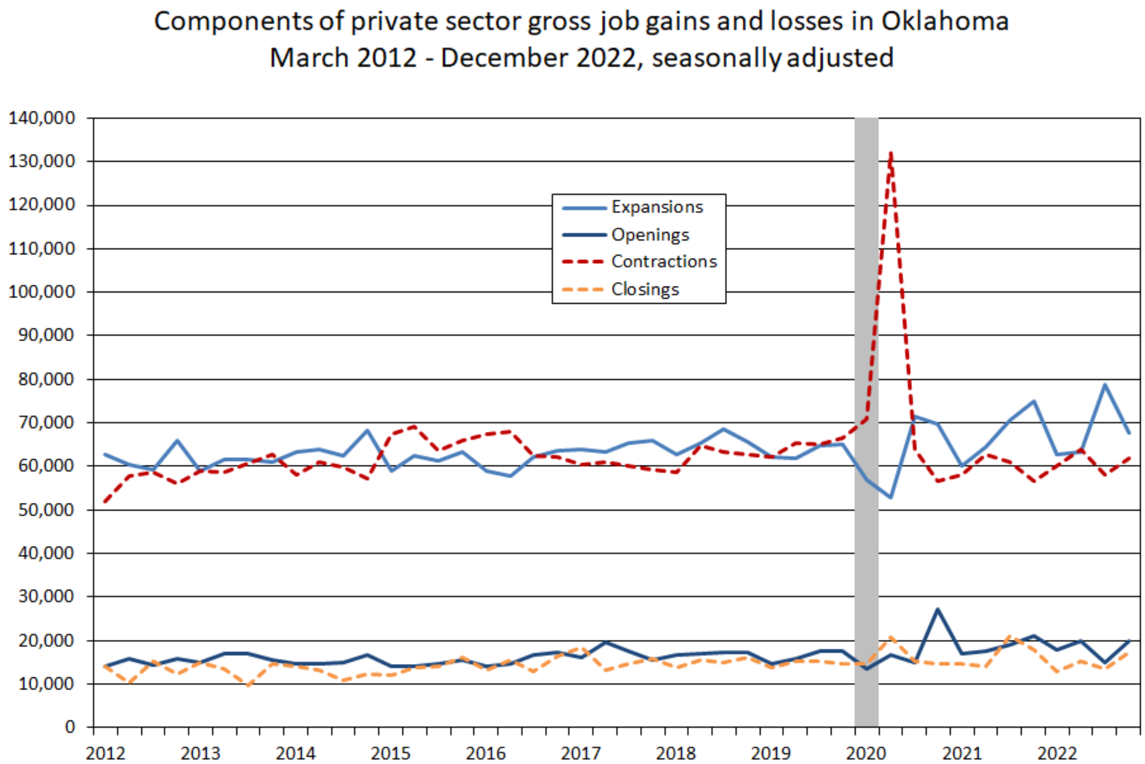
Private sector gross job gains and gross job losses in Oklahoma
March 2012 - December 2022, seasonally adjusted



Source: U.S. Bureau of Labor Statistics
Note: Shaded area represents NBER defined recession period.

The change in the number of jobs over time is the net result of increases and decreases in employment that occur at all businesses in the economy. Business Employment Dynamics (BED) statistics track these changes in employment at private business establishments from the third month of one quarter to the third month of the next. *Gross job gains* are the sum of increases in employment from expansions at existing establishments and the addition of new jobs at opening establishments. *Gross job losses* are the result of contractions in employment at existing establishments and the loss of jobs at closing establishments. The difference between the number of gross job gains and the number of gross job losses is the net change in employment.

Chart 2



Source: U.S. Bureau of Labor Statistics
Note: Shaded area represents NBER defined recession periods.

Gross Job Gains and Losses: Openings vs. Closings and Expansions vs. Contractions

Gross job gains are the sum of increases in employment due to expansions at existing establishments and the addition of new jobs at opening establishments. Gross job gains at expanding establishments in Oklahoma totaled 67,807 in the 4th quarter of 2022, a decrease of 10,905 jobs compared to the previous quarter. Opening establishments accounted for 19,897 of the jobs gained in the 4th quarter of 2022, an increase of 5,014 jobs from the previous quarter, (see Chart 2, above).

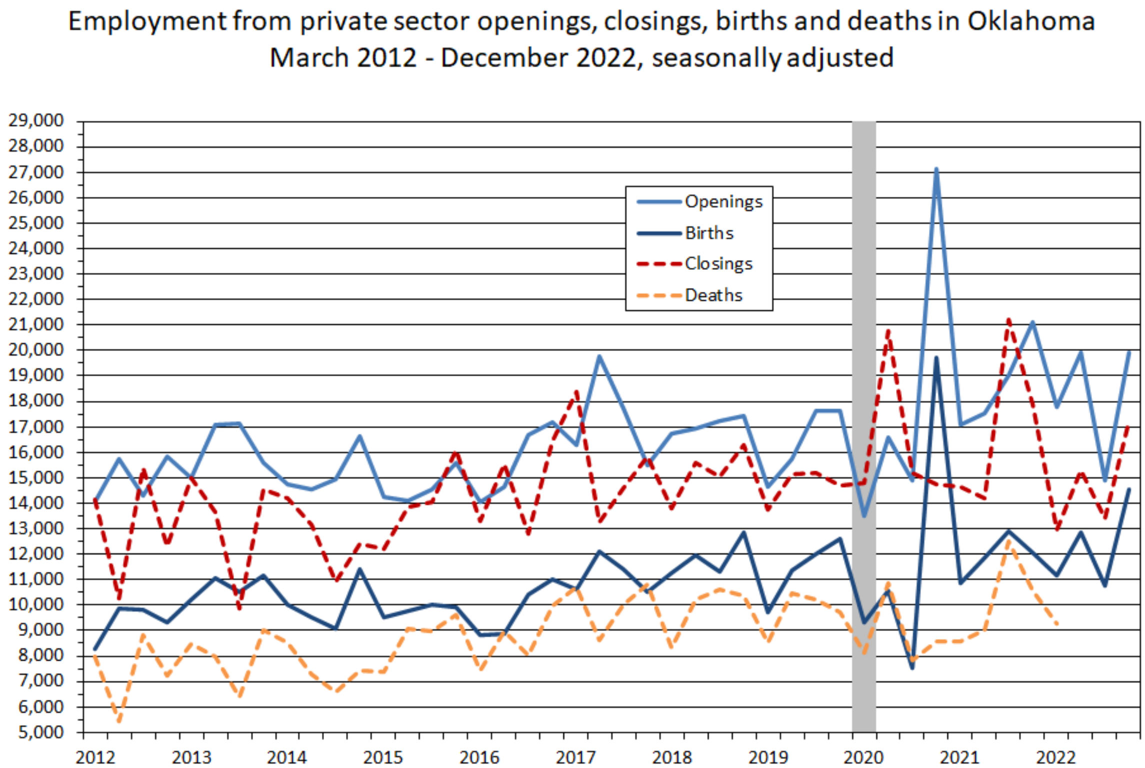
Gross job losses are the result of contractions in employment at existing establishments and the loss of jobs at closing establishments. Contracting establishments in Oklahoma lost 61,883 jobs in the 4th quarter of 2022, an increase of 3,754 jobs from the prior quarter. In the 4th quarter, closing establishments lost 17,255 jobs, an increase of 3,869 jobs from the previous quarter.

Establishment Births and Deaths

In Oklahoma, the number of private sector establishment births, (a subset of the openings data), increased by 1,055, for a total of 4,278 establishments in the 4th quarter of 2022. These new establishments accounted for 14,548 jobs, an increase of 3,786 jobs from the previous quarter, (see Chart 3, next page).

Data for establishment deaths, (a subset of the closings data), are now available through the 1st quarter of 2022, when 9,274 jobs were lost at 2,628 establishments, a decrease of 1,295 jobs from the 4th quarter of 2021, (see Chart 3, below).

Chart 3



Source: U.S. Bureau of Labor Statistics
Note: Shaded area represents NBER defined recession periods.

Gross Job Gains and Gross Job Losses: Percent of Total Private Sector Employment

In the 4th quarter of 2022, gross job gains represented 6.6 percent of private-sector employment in Oklahoma with expansions accounting for 5.1 percent of total private sector employment and openings contributing 1.5 percent. Nationally, gross job gains accounted for 6.2 percent of private sector employment in the quarter of 2022. With few exceptions, Oklahoma's rates of gross job gains have generally tracked with the U.S. rates. However, beginning in the 1st quarter of 2015, the rate of Oklahoma's gross job gains slipped below the national rate for seven consecutive quarters, exceeded the U.S. rate in the following nine quarters but has lagged behind the U.S. rate in nine out of the past 16 quarters, (see Chart 4, next page).

In the 4th quarter of 2022, gross job losses represented 6.0 percent of private-sector employment in Oklahoma, with contractions accounting for 4.7 percent and closings adding another 1.3 percent. The national rate of gross job losses was 5.9 percent in the 4th quarter of 2022. From the 3rd quarter 2013 forward, Oklahoma's rate of gross job losses has shown more volatility especially the period beginning 1st quarter 2015 through 1st quarter 2017, then tracking more with national trends from the 4th quarter of 2017 forward, (see Chart 5, next page).

Chart 4

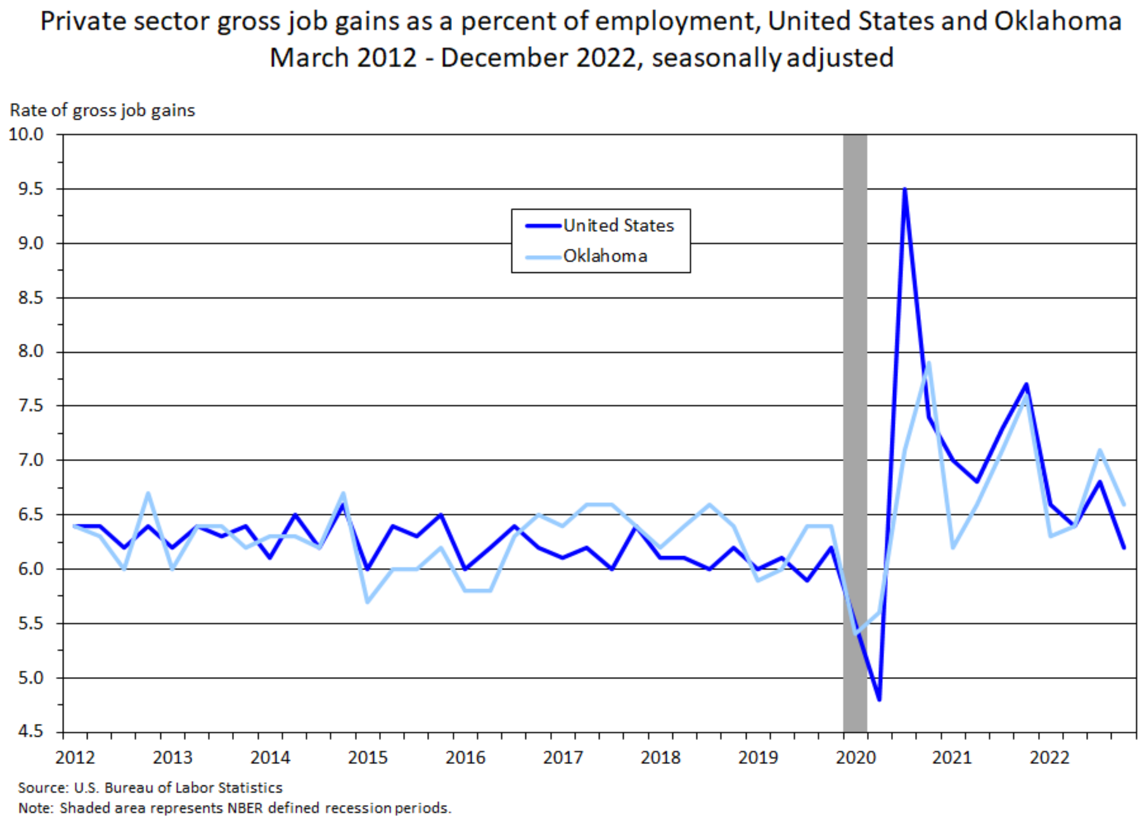


Chart 5

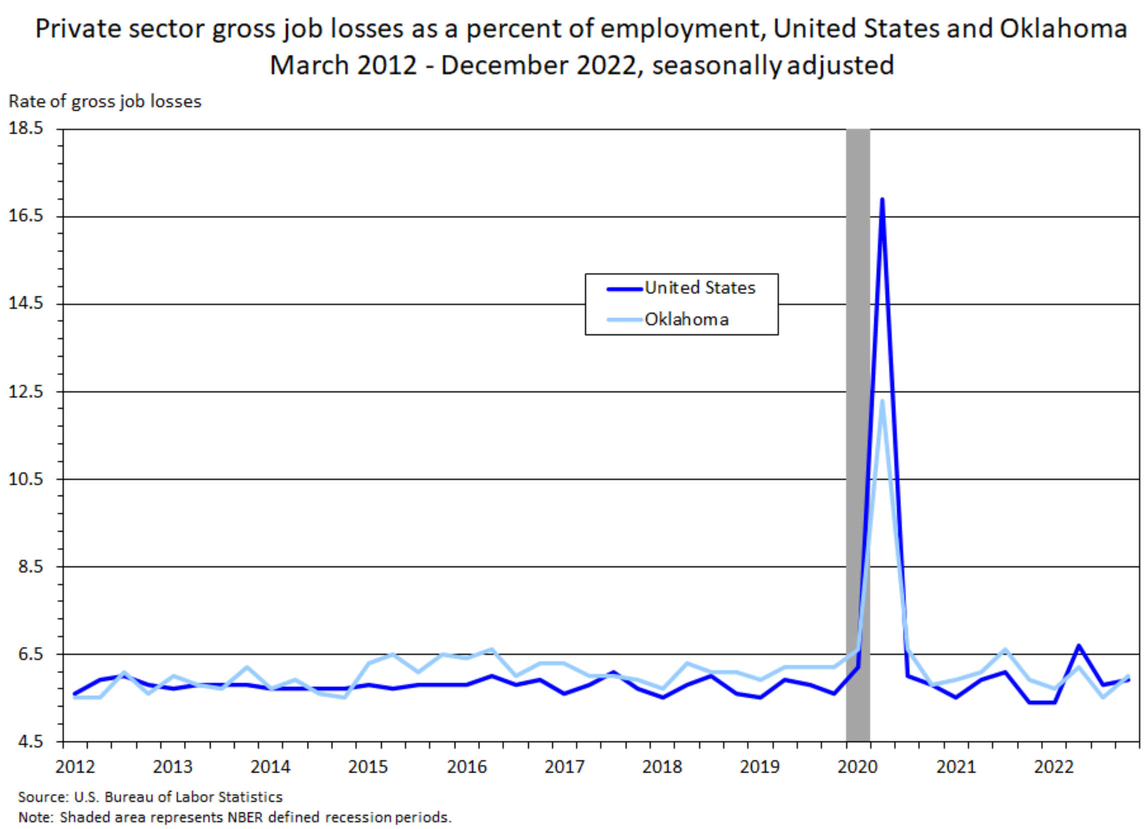


Table 1. Oklahoma: Three-month private sector gross job gains and losses, seasonally adjusted					
Category	3 months ended				
	Dec 2021	March 2022	June 2022	Sep 2022	Dec 2022
	Levels				
Gross job gains……………………………………	**96,147**	**80,662**	**83,248**	**93,595**	**87,704**
Expanding establishments	75,018	62,879	63,349	78,712	67,807
Opening establishments	21,129	17,783	19,899	14,883	19,897
Gross job losses…………………………………	**74,418**	**73,118**	**79,286**	**71,515**	**79,138**
Contracting establishments	56,534	60,167	64,005	58,129	61,883
Closing establishments	17,884	12,951	15,281	13,386	17,255
Net employment change[1]	21,729	7,544	3,962	22,080	8,566
	Rates (percent)				
Gross job gains……………………………………	**7.6**	**6.3**	**6.4**	**7.1**	**6.6**
Expanding establishments	5.9	4.9	4.9	6.0	5.1
Opening establishments	1.7	1.4	1.5	1.1	1.5
Gross job losses…………………………………	**5.9**	**5.7**	**6.2**	**5.5**	**6.0**
Contracting establishments	4.5	4.7	5.0	4.5	4.7
Closing establishments	1.4	1.0	1.0	1.0	1.3
Net employment change[1]	1.7	0.6	0.2	1.6	0.6

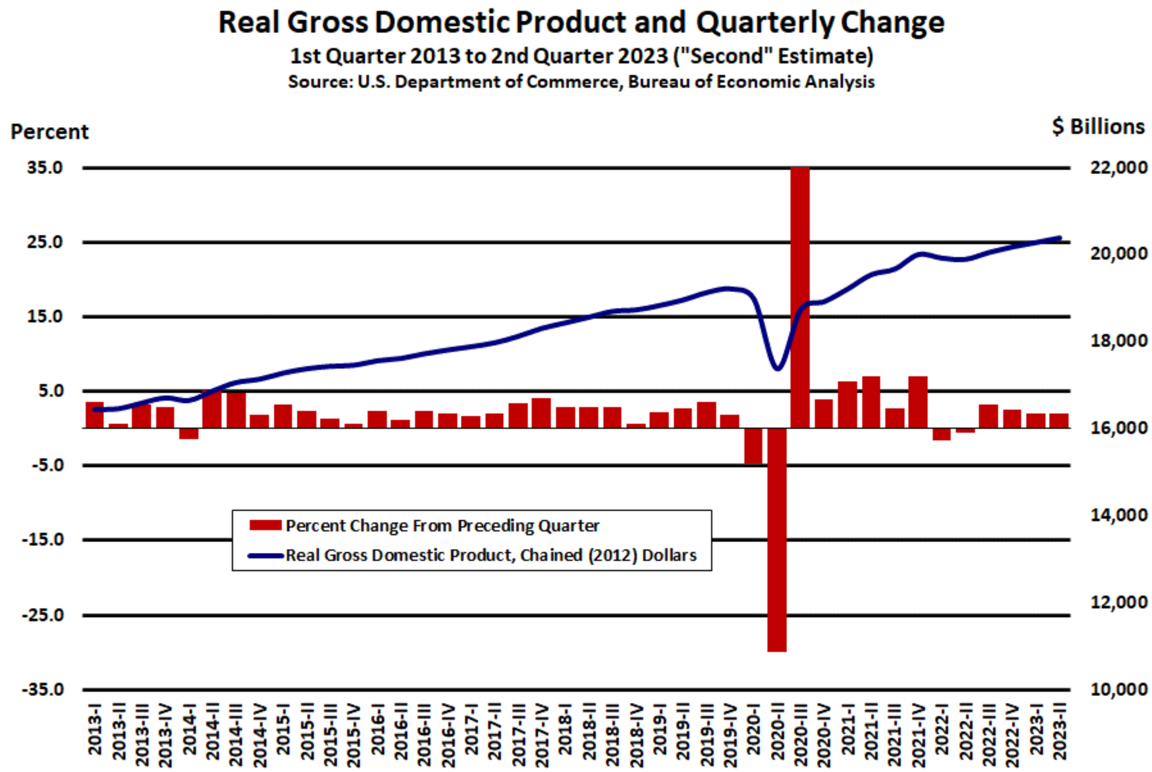
Source: U.S Bureau of Labor Statistics

[1]Net employment change is the difference between total gross job gains and total gross job losses.

More Information

A copy of the full 4th quarter 2022 Oklahoma BED report along with technical notes and detailed tables is available on the OESC website at: Oklahoma Business Employment Dynamics - 4th Quarter 2022

Additional information about the Business Employment Dynamics program is available online at: http://www.bls.gov/bdm



Definition & Importance

Gross Domestic Product (GDP)—the output of goods and services produced by labor and property located in the United States—is the broadest measure of economic activity. It is also the measure that is most indicative of whether the economy is in recession. In the post-World War II period, there has been no recession in which GDP did not decrease in at least two quarters, (the exceptions being during the recessions of 1960-61 and 2001).

The Bureau of Economic Analysis (BEA), U.S. Department of Commerce releases GDP data on a quarterly basis, usually during the fourth week of the month. Data are for the prior quarter, so data released in April are for the 1st quarter. Each quarter's data are revised in each of the following two months after the initial release. Each revision is based on more complete economic data.

Background

There are four major components to GDP:

1. *Personal consumption expenditures:* Individuals purchase durable goods (such as furniture and cars), nondurable goods (such as clothing and food) and services (such as banking, education, and transportation).

2. *Investment:* Private housing purchases are classified as residential investment. Businesses invest in nonresidential structures, durable equipment, and computer software. Inventories at all stages of production are counted as investment. Only inventory changes, not levels, are added to GDP.

3. *Net exports:* Equal the sum of exports less imports. Exports are the purchases by foreigners of goods and services produced in the United States. Imports represent domestic purchases of foreign-produced goods and services and are deducted from the calculation of GDP.

4. *Government:* Government purchases of goods and services are the compensation of government employees and purchases from businesses and abroad. Data show the portion

attributed to consumption and investment. Government outlays for transfer payments or interest payments are not included in GDP.

The four major categories of GDP—personal consumption expenditures, investment, net exports and government—all reveal important information about the economy and should be monitored separately. This allows one to determine the strengths and weaknesses of the economy.

Current Developments

The U.S. economy surprisingly accelerated from April through June, driven by solid consumer spending and business investment, and outlays by state and local governments. Real gross domestic product (GDP) increased at an annual rate of 2.1 percent in the 2nd quarter of 2023, according to the "second" estimate released by the Bureau of Economic Analysis (BEA). In the 1st quarter, real GDP increased 2.0 percent. The updated estimates primarily reflected downward revisions to private inventory investment and nonresidential fixed investment that were partly offset by an upward revision to state and local government spending.

Consumer spending, which accounts for more than two-thirds of U.S. economic activity, was solid in the 2nd quarter, although it slowed to a 1.7 percent annual rate from a 4.2 percent pace in the 1st quarter. Spending on durable goods, such as automobiles, declined 0.3 percent following a sizzling 16.3 percent rate in the 1st quarter. Outlays on services, such as health care, housing and utilities, slowed to a 2.2 percent pace, while spending on nondurable goods, such as food and beverages, advanced 1.2 percent. Personal consumption expenditures (PCE) added 1.14 percentage points to 2nd quarter GDP growth, after contributing 2.79 percentage points in the previous quarter.

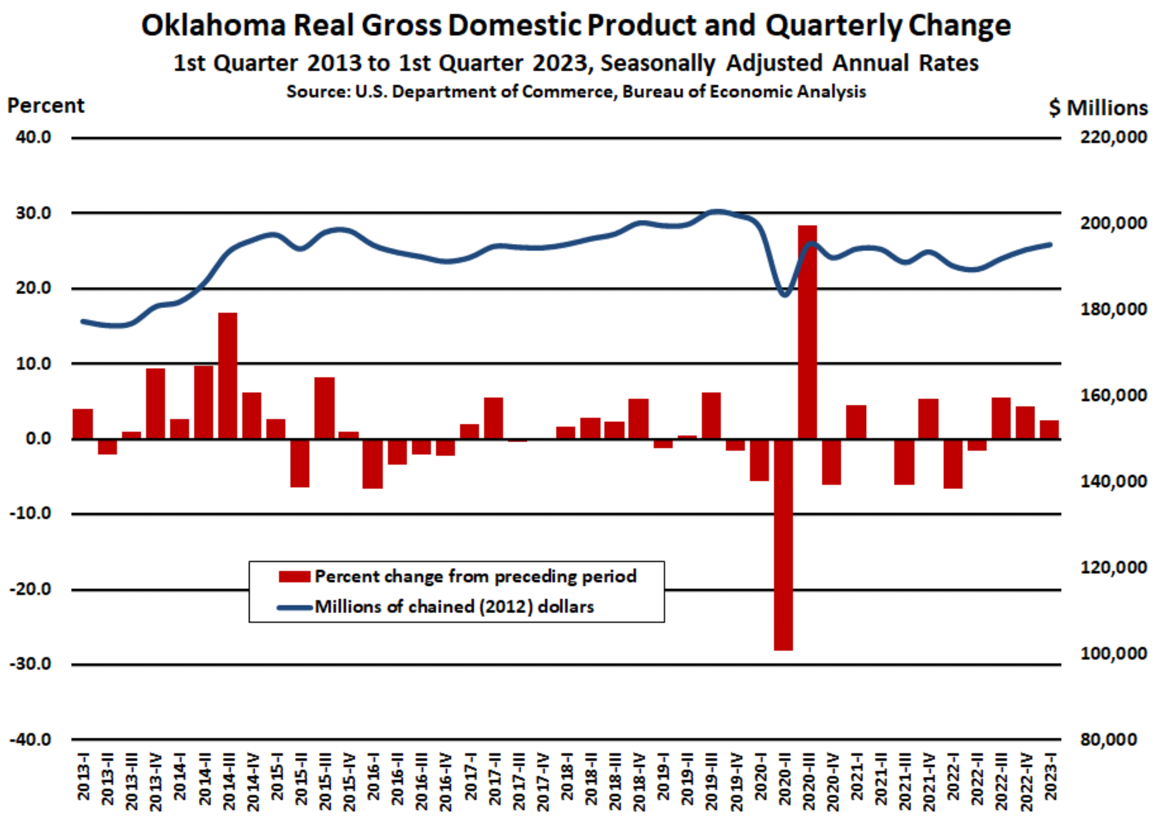
Business investment accelerated to a 6.1 percent annual rate in the 2nd quarter, the fastest pace since 3rd quarter 2022, as spending on equipment rebounded after two straight quarterly declines. Business outlays on equipment jumped to a 7.7 percent rate. Expenditures on structures, which are tied to the oil and gas sector and commercial real estate, grew at a 11.2 percent pace. Spending on intellectual property products increased 2.2 percent. Nonresidential fixed investment contributed 0.80 percentage point to 2nd quarter GDP, up from 0.08 percentage point reported in the previous quarter.

Businesses inventory accumulation sank in the 2nd quarter. Business inventories decreased at a rate of $1.8 billion, down $5.3 billion from the previous quarter. The change in private inventories shaved 0.09 percentage point from GDP growth, after subtracting 2.14 percentage points in the 1st quarter.

Investment in housing fell again, contracting for the ninth straight quarter, weakened by higher mortgage rates. Residential investment, a gauge of homebuilding, declined 3.6 percent in the 2nd quarter. Residential fixed investment subtracted 0.14 percentage point from 2nd quarter GDP, following a 0.16 percentage point deduction in the previous quarter.

Trade was a drag to 2nd quarter GDP, after contributing to growth for four straight quarters. Exports, which add to GDP dropped 10.6 percent while imports, which subtract, declined 7.0 percent. A widening trade gap subtracted 0.22 percentage points from 2nd quarter GDP, following a 0.58 percentage point contribution in the previous quarter.

Increased spending by state and local governments also helped fuel the economy’s expansion in the April to June quarter. Federal government spending increased 1.2 percent in the 2nd quarter, as national defense spending rose 2.8 percent, while nondefense spending declined 0.7 percent. Consumption outlays by state and local governments increased 4.7 percent in the 2nd quarter. Government consumption expenditures and investment added 0.58 percentage point to 2nd quarter GDP.



Definition & Importance

The U.S. Bureau of Economic Analysis (BEA) recently began producing statistics of quarterly gross domestic product (GDP) by state dating back to 2005. These new statistics provide a more complete picture of economic growth across states that can be used with other regional data to gain a better understanding of regional economies as they evolve from quarter to quarter. The new data provide a fuller description of the accelerations, decelerations, and turning points in economic growth at the state level, including key information about changes in the distribution of industrial infrastructure across states.

Current Developments

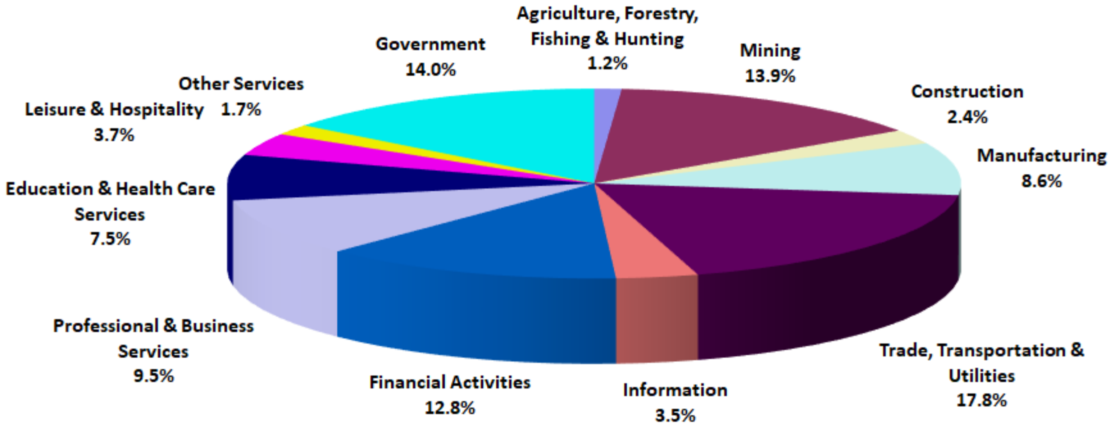
Real gross domestic product (GDP) by state—a measure of nationwide growth calculated as the sum of GDP of all states and the District of Columbia—increased in all 50 states and the District of Columbia in the 1st quarter of 2023, with the percent change ranging from 12.4 percent in North Dakota to 0.1 percent in Rhode Island and Alabama, according to the Bureau of Economic Analysis (BEA). Current-dollar GDP increased in 47 states and the District of Columbia in the 1st quarter, with the percent change ranging from 14.1 percent in Nebraska to –2.9 percent in West Virginia.

Oklahoma’s real GDP decelerated to a 2.5 percent rate in the 1st quarter of 2023, following a 4.3 percent pace in the 4th quarter, ranking Oklahoma 21st among all other states and the District of Columbia. Statewide GDP was at a level of $195.2. billion (in constant 2012 dollars) in the 1st quarter, up $1.2 billion from the 4th quarter level of $194.0 billion.

Industry Share of Oklahoma's Economy, 1st Quarter 2023

(by percentage of Gross Domestic Product)

Source: U.S. Department of Commerce, Bureau of Economic Analysis



In the 1st quarter of 2023, as real GDP for the nation grew at an annual rate of 2.0 percent, real GDP increased in 14 of the 23 industry groups for which BEA prepares quarterly state estimates. Health care and social assistance; retail trade; and agriculture, forestry, fishing, and hunting were the leading contributors to the increase in real GDP nationally.

Health care and social assistance increased in all 50 states and the District of Columbia and was the leading contributor to growth in 15 states. In Oklahoma, health care and social assistance added 0.45 percentage point to 1st quarter GDP.

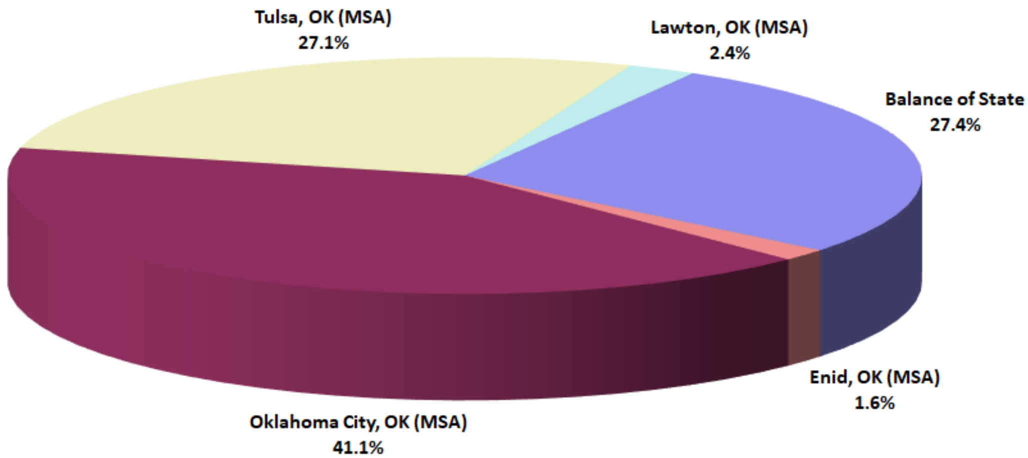
Retail trade increased in all 50 states and the District of Columbia and was the leading contributor to growth in 8 states, including Oklahoma adding 0.82 percentage point to 1st quarter GDP.

Agriculture, forestry, fishing, and hunting increased in 33 states and was the leading contributor to growth in 13 states including North Dakota, Nebraska, South Dakota, Kansas, and Montana, the 5 states with the largest increases in real GDP. In Oklahoma, agriculture, forestry, fishing, and hunting was the second-largest contributor to 1st quarter GDP, adding 0.71 percentage point.

Finance and insurance decreased in all 50 states and the District of Columbia. This industry was the leading offset to growth in Rhode Island, one of the states with the smallest increase in real GDP. In Oklahoma, finance and insurance subtracted 0.30 percentage point from statewide GDP in the 1st quarter.

Metropolitan Area Contribution to State Real Gross Domestic Product 2021

Source: U.S. Department of Commerce, Bureau of Economic Analysis



Definition & Importance

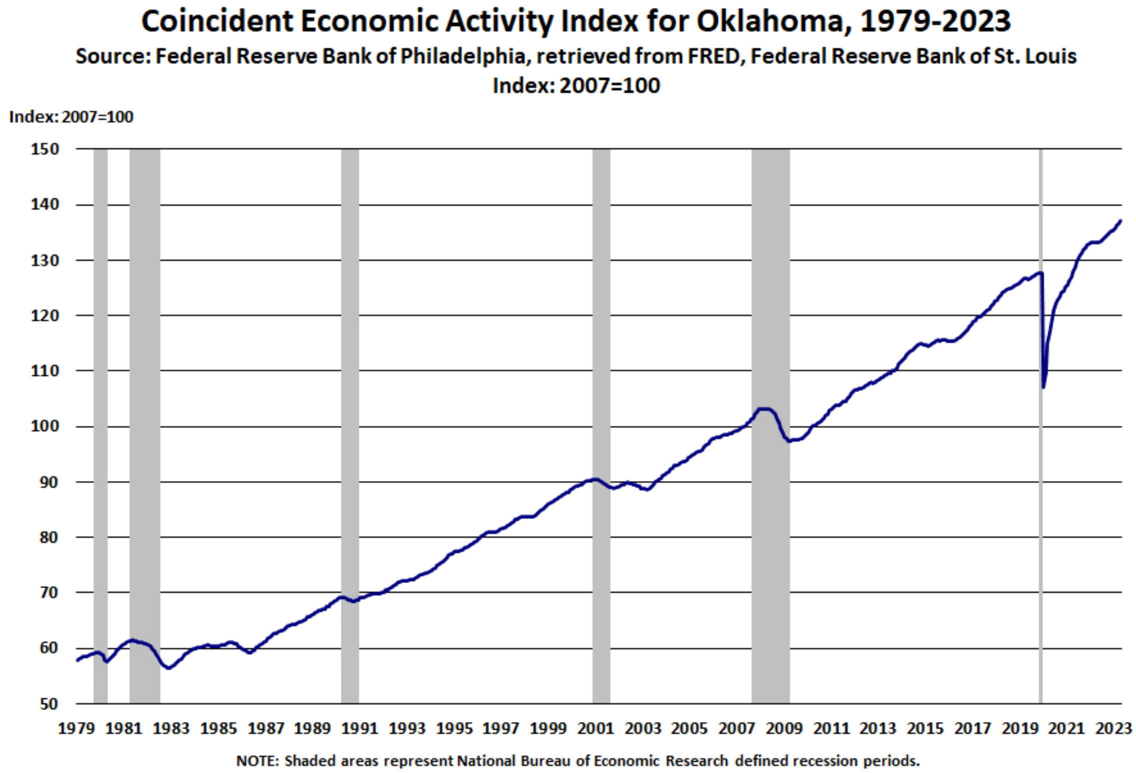
Metropolitan Statistical Areas (MSA) are county-based definitions developed by the Office of Management and Budget for federal statistical purposes. A metropolitan area is defined as a geographic area consisting of a large population nucleus together with adjacent communities having a high degree of economic and social integration with the nucleus.

GDP by metropolitan area is the sub-state counterpart of the Nation's gross domestic product (GDP), the BEA's featured and most comprehensive measure of U.S. economic activity. GDP by metropolitan area is derived as the sum of the GDP originating in all the industries in the metropolitan area. Nationally, metropolitan statistical areas represent approximately 90 percent of total GDP. In Oklahoma, the four MSAs of Oklahoma City, Tulsa, Lawton, and Enid accounted for 72.2 percent of total state GDP in 2021.

Current Developments

Real gross domestic product (GDP) increased in 365 out of 384 metropolitan areas in 2021, according to the U.S. Bureau of Economic Analysis (BEA). The percent change in real GDP by metropolitan area ranged from 25.3 percent in Elkhart-Goshen, IN to -6.7 percent in Wheeling, WV-OH. Real GDP for U.S. metropolitan areas increased 6.2 percent in 2021 as every major industry group, (with the exception of information and finance, insurance, real estate, rental, and leasing), saw declines over the year.

In 2021, all of Oklahoma’s four metropolitan areas experienced positive GDP growth. Enid MSA real GDP rose 5.7 percent in 2021 to a level of $3.17 billion, ranking it 154th among 384 metro areas. Lawton MSA real GDP increased 1.4 percent in 2021 to a level of $4.66 billion, and ranked 349th among U.S. metro areas. Oklahoma City MSA grew 0.9 percent to $79.33 billion and ranked 354th. Tulsa MSA real GDP increased 0.3 percent to a level of $51.27 and ranking 362nd among 384 U.S. metropolitan areas in 2021.



Definition & Importance

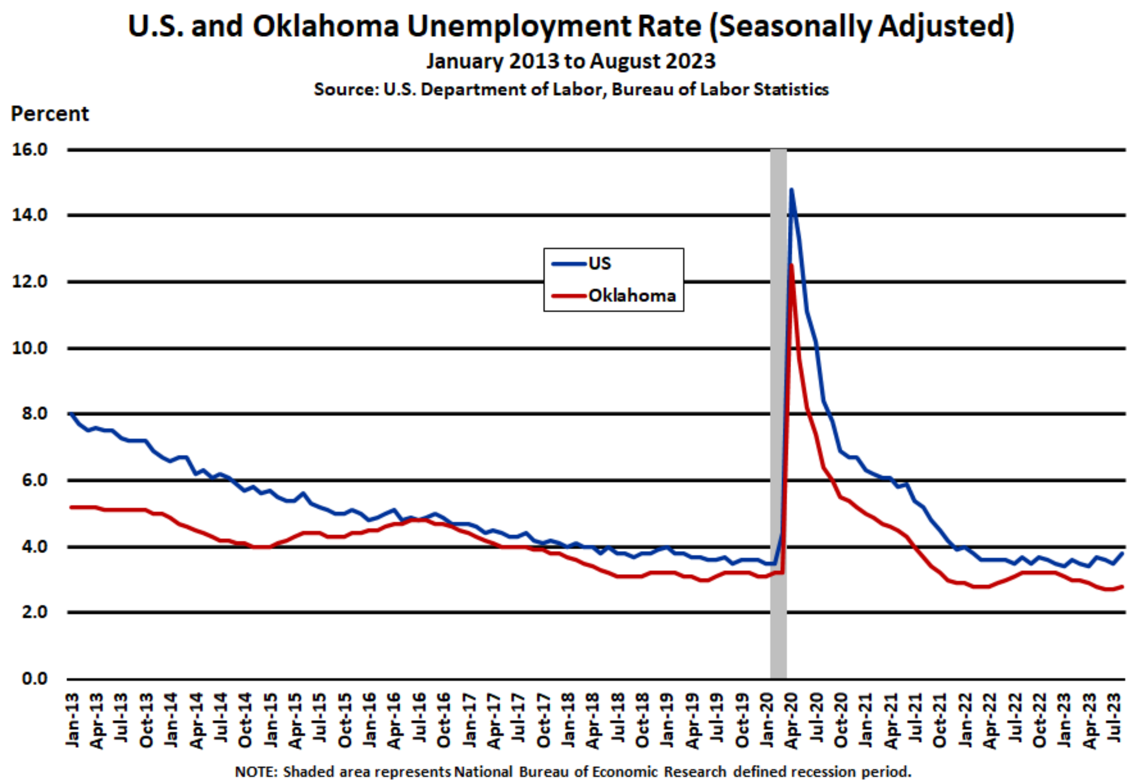
The Federal Reserve Bank of Philadelphia produces leading indexes for each of the 50 states. The indexes are calculated monthly and are usually released a week after the release of the coincident indexes. The Bank issues a release each month describing the current and future economic situation of the 50 states with special coverage of the Third District: Pennsylvania, New Jersey, and Delaware.

The leading index for each state predicts the six-month growth rate of the state's coincident index. In addition to the coincident index, the models include other variables that lead the economy: state-level residential housing permits (1 to 4 units), state initial unemployment insurance claims, delivery times from the Institute for Supply Management (ISM) manufacturing survey, and the interest rate spread between the 10-year Treasury bond and the 3-month Treasury bill.

Current Developments

The Federal Reserve Bank of Philadelphia has released the coincident indexes for the 50 states for July 2023. Over the past three months, the indexes increased in 45 states and decreased in five, for a three-month diffusion index of 80. Additionally, , the indexes increased in 37 states, decreased in six states, and remained stable in seven, for a one-month diffusion index of 62. For comparison purposes, the Philadelphia Fed has also developed a similar coincident index for the entire United States. The Philadelphia Fed's U.S. index increased 0.6 percent over the past three months and 0.3 percent in July.

In the three months to July, the coincident index for Oklahoma increased 1.0 percent. The level of payroll employment increased over the past three months. The unemployment rate decreased significantly during the three-month period. Additionally, average hours worked in manufacturing increased. Overall, Oklahoma's economic activity as measured by the coincident index has risen 2.9 percent over the past 12 months.



Definition & Importance

The Bureau of Labor Statistics Local Area Unemployment Statistics (LAUS) program produces monthly estimates of total employment and unemployment from a national survey of 60,000 households. The unemployment rate measures the percentage of people who are without work and is calculated by dividing the estimated number of unemployed people by the civilian labor force. The result expresses unemployment as a percentage of the labor force.

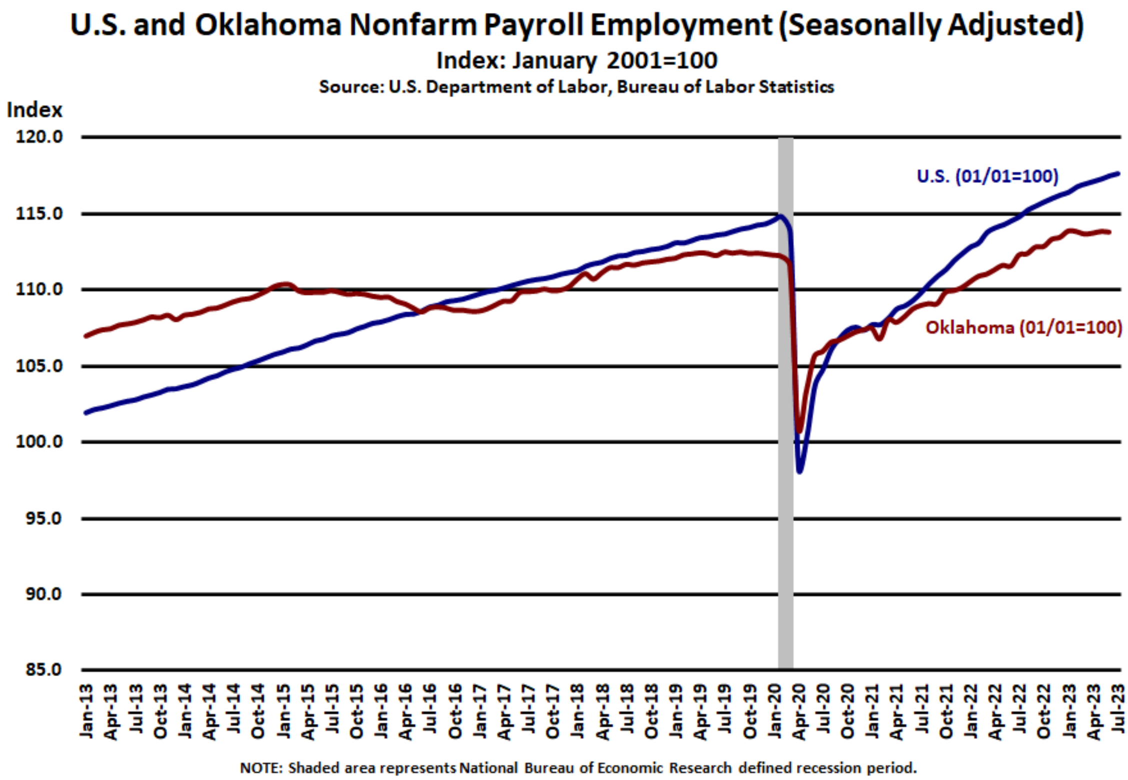
The unemployment rate is a lagging indicator of economic activity. During a recession, many people leave the labor force entirely. As a result, the jobless rate may not increase as much as expected. This means that the jobless rate may continue to increase in the early stages of recovery because more people are returning to the labor force as they believe they will be able to find work. The civilian unemployment rate tends towards greater stability than payroll employment on a monthly basis and reveals the degree to which labor resources are utilized in the economy.

Current Developments

The U.S. unemployment rate rose sharply in August, as more Americans entered the labor force and not all found jobs. The unemployment rate rose by 0.3 percentage point to 3.8 percent in August, according to the Bureau of Labor Statistics (BLS). The unemployment rate had ranged from 3.4 percent to 3.7 percent since March 2022.

Oklahoma's seasonally adjusted unemployment rate rose 0.1 percentage point to 2.8 percent in August. Over the year, the state's seasonally adjusted unemployment rate was 0.4 percentage point lower than August 2022.

In July, Latimer County posted Oklahoma's highest county unemployment rate of 5.7 percent. McIntosh County reported the second-highest rate for the month, followed by Haskell and Seminole Counties. Cimarron County reported the lowest county unemployment rate of 1.4 percent in July. Unemployment rates in July were lower than a year earlier in 43 counties, higher in 17 counties and unchanged in 17 counties.



Definition & Importance

Nonfarm payroll employment data is produced by the Current Employment Statistics (CES) program of the Bureau of Labor Statistics (BLS). The CES Survey is a monthly survey of approximately 145,000 businesses and government agencies representing approximately 697,000 worksites throughout the United States. The CES program has provided estimates of employment, hours, and earnings data by industry for the nation as a whole, all States, and most major metropolitan areas since 1939. In order to account for the size disparity between of U.S. and Oklahoma employment levels, we have indexed the data with January 2001 as the start value.

Payroll employment is one of the most current and reliable indicators of economic conditions and recessionary trends. Increases in nonfarm payrolls translate into earnings that workers will spend on goods and services in the economy. The greater the increases in employment, the faster the total economic growth.

Current Developments

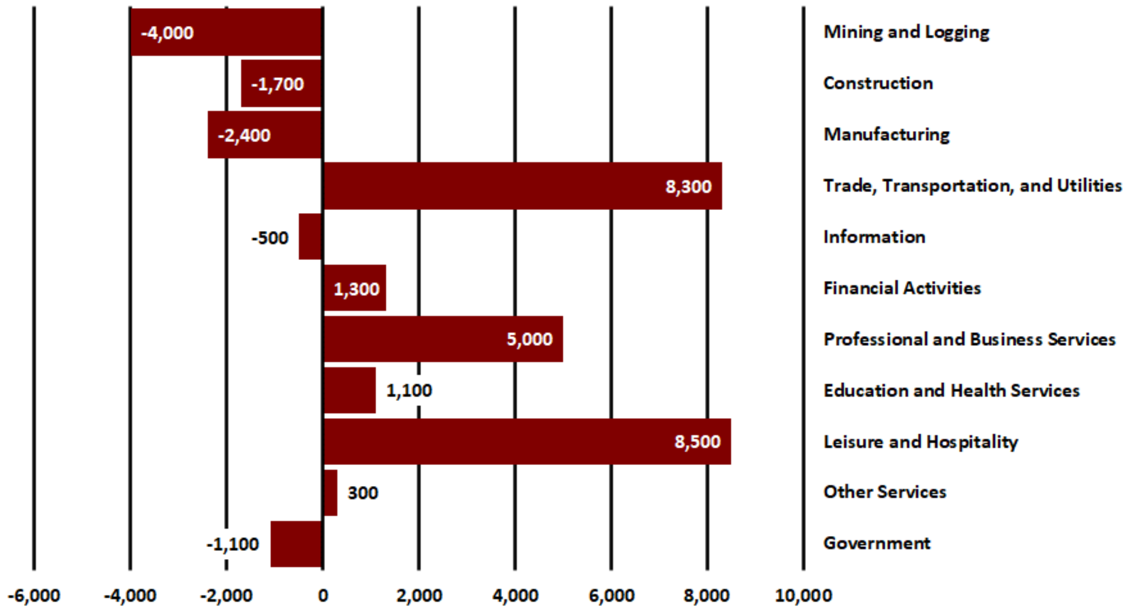
U.S job growth picked up in August as employers hired at a solid pace, but slower than job gains of the past two and a half years. Total nonfarm payroll employment increased by 187,000 in August, less than the average monthly gain of 271,000 over the prior 12 months, according to the Bureau of Labor Statistics (BLS). In August, employment continued to trend up in health care (71,000 jobs), leisure and hospitality (40,000 jobs), social assistance (26,000 jobs), and construction (22,000 jobs). Employment in transportation and warehousing declined (-34,000 jobs).

Oklahoma's seasonally adjusted nonfarm employment shed 500 jobs (0.0 percent) over the month in August, to a level of 1,730,500 while the July estimate was downwardly revised to 1,731,000. In August, four of Oklahoma's supersectors added jobs, as trade, transportation, and utilities (1,200 jobs) followed by leisure and hospitality (800 jobs) reported the largest job gains over the month. Professional and business services (-1,100 jobs) followed by education and health services (-900 jobs) posted the largest over-the-month job losses.

Oklahoma Employment Change by Industry, 2020-2021

Annual Averages (Not Seasonally Adjusted)

Source: Current Employment Statistics (CES), U.S. Department of Labor, Bureau of Labor Statistics



Definition & Importance

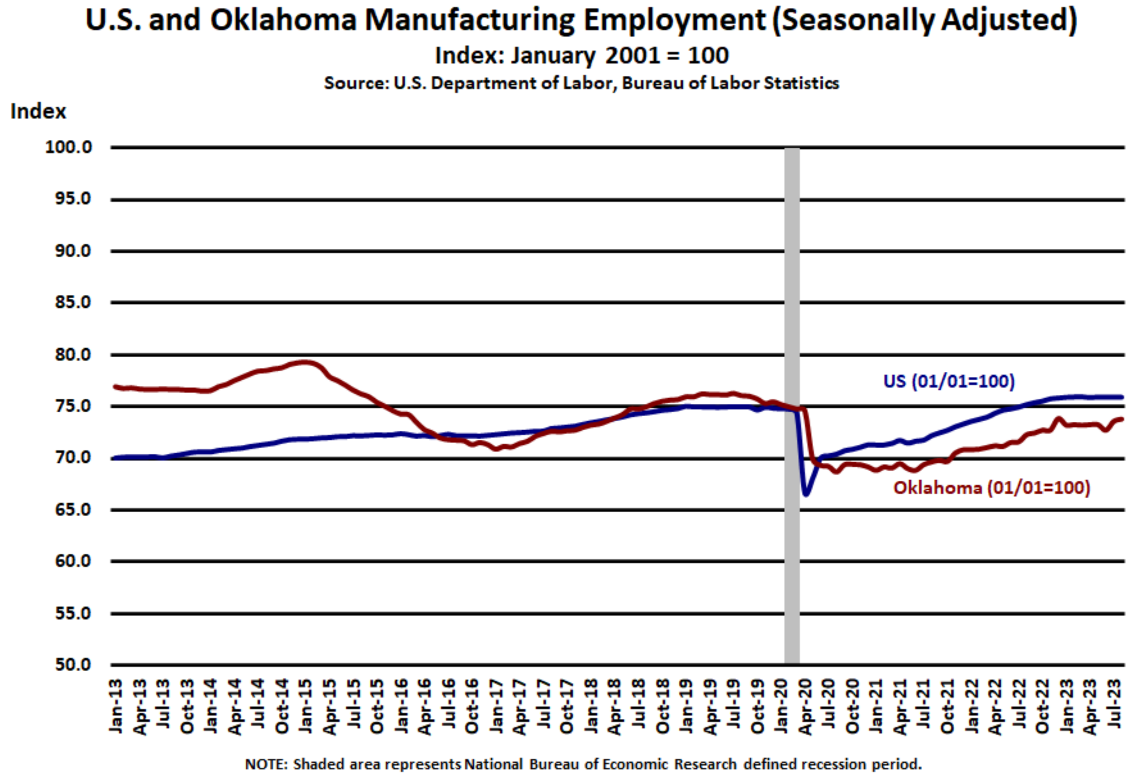
Employment growth by industry identifies the types of jobs being created in the state. Conversely, industries with a declining employment trend indicate those which are becoming less important in the state's economy. There may also be industries which behave more cyclically, growing during expansion and decreasing in times of economic slowdown or contraction. These changes are crucial in that they help to recognize the types of jobs being lost by individuals. Anticipating what will happen in recovery helps identify whether those jobs will return or what types of new jobs will be created. Consequently, key information for planning re-employment, retraining, and other workforce and economic development programs is contained within these data. For this analysis, we are using CES non-seasonally adjusted annual averages to compare year-over-year employment changes.

Current Developments

Oklahoma's annual average nonfarm employment added jobs in 2021, following a dip in 2020 as business closures due to the COVID-19 pandemic pulled employment down. Total nonfarm employment added a non-seasonally adjusted 14,900 jobs (0.9 percent) in 2021. For comparison, 77,500 jobs were lost for a 4.5 percent decline in the previous year.

In 2021, six of 11 of Oklahoma's supersectors reported job gains. Leisure and hospitality saw the largest job gain adding 8,500 jobs (5.4 percent), as accommodation and food services accounted for the bulk of the job gains (7,700 jobs). Trade, transportation, and utilities shed a non-seasonally adjusted 8,300 jobs (2.7 percent), as retail trade added 4,900 jobs over the year. Professional and business services employment grew by 5,000 jobs (6.3 percent) as employment services gained 4,200 jobs. Other sectors adding jobs were financial activities (-1,300 jobs), and education and health services (1,100 jobs).

Mining and logging lost 4,000 jobs (-12.7 percent) as support activities for mining lost 2,500 jobs. Manufacturing employment declined by 2,400 jobs (-1.8 percent) with durable goods manufacturing accounting for all the job losses. Construction dropped 1,700 jobs (-2.2 percent). Government employment declined by 1,100 jobs (-0.3 percent, while information shed 500 jobs.



Definition & Importance

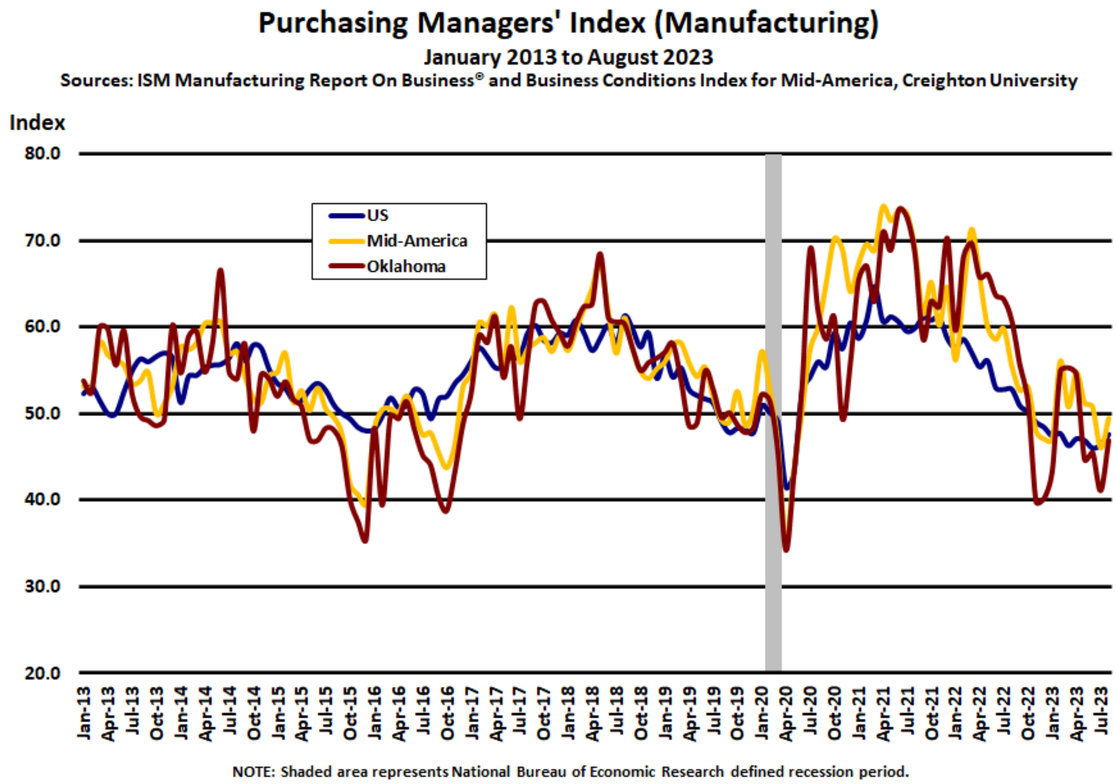
Manufacturing employment data is also produced by the Bureau of Labor Statistics' Current Employment Statistics (CES) program. Manufacturing and production are still important parts of both the U.S. and Oklahoma economies. According to the *2020 County Business Patterns*, the manufacturing sector was the 5th-largest employer, employing 12.0 million workers in the United States—and the top 10 average annual employee payroll at $61,520. In Oklahoma, manufacturing accounts for one of the largest shares of private output and employment in the state. In addition, many manufacturing jobs are among the highest paying jobs in the state. In order to account for the size disparity between the U.S. and Oklahoma employment levels, we have indexed the data with January 2001 as the starting value.

Current Developments

U.S. factory payrolls trended up in August, as hiring picked up in the durable goods industries. Manufacturing employment increased by 16,000 in August, according to the Bureau of Labor Statistics. Durable goods manufacturing added 12,000 jobs in August, led by fabricated metal products (4,600 jobs), electrical equipment, appliance, and component manufacturing (3,700 jobs), and machinery manufacturing (3,600 jobs). Non-durable goods added 4,000 jobs.

Oklahoma manufacturing employment shed a seasonally adjusted 100 jobs (-0.1 percent) over the month in August to a level of 136,300. In August, durable goods manufacturing gains (200 jobs) were offset by losses in non-durable goods manufacturing (-300 jobs).

Over the year, statewide manufacturing employment added a seasonally adjusted 2,400 jobs (1.8 percent) compared to August 2022, as durable goods manufacturing gained 1,600 jobs (1.8 percent) and non-durable goods manufacturing added 800 jobs (1.7 percent).



Definition & Importance

Economists consider the Institute for Supply Management's Purchasing Managers' Index (PMI™) a key economic indicator. The Institute for Supply Management (ISM®) surveys more than 300 manufacturing firms on employment, production, new orders, supplier deliveries, and inventories. The ISM® manufacturing index is constructed so that any level at 50 or above signifies growth in the manufacturing sector, which accounts for about 12 percent of the U.S. economy. A level above 43 or so, but below 50, indicates that the U.S. economy is still growing even though the manufacturing sector is contracting. Any level below 43 indicates that the economy is in recession.

For the region, since 1994, the Creighton Economic Forecasting Group at Creighton University has conducted a monthly survey of supply managers in nine states (including Arkansas, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, and South Dakota), to produce leading economic indicators for the Mid-America economy using the same methodology as the national survey by the ISM®.

Current Developments

U.S. factory activity contracted for a 10th straight month in August, but the pace of decline continued to slow, suggesting that the sector could be stabilizing at lower levels. The August Manufacturing PMI® registered 47.6 percent, 1.2 percentage points higher than the 46.4 percent recorded in July, according to the latest Manufacturing ISM® *Report On Business®*.

The ISM survey's forward-looking new orders sub-index slipped to 46.8 August from 47.3 in July. The survey's gauge of factory employment rose to 48.5 from 44.4 in July, the lowest reading since July 2020. Inflation at the factory gate rose to 48.4 last month from 42.6 in July. The delivery performance of suppliers to factories has been faster for 11 straight months, as the survey's measure of supplier deliveries rose to 48.6, up from 46.1 in July. A reading below 50 indicates faster deliveries to factories.

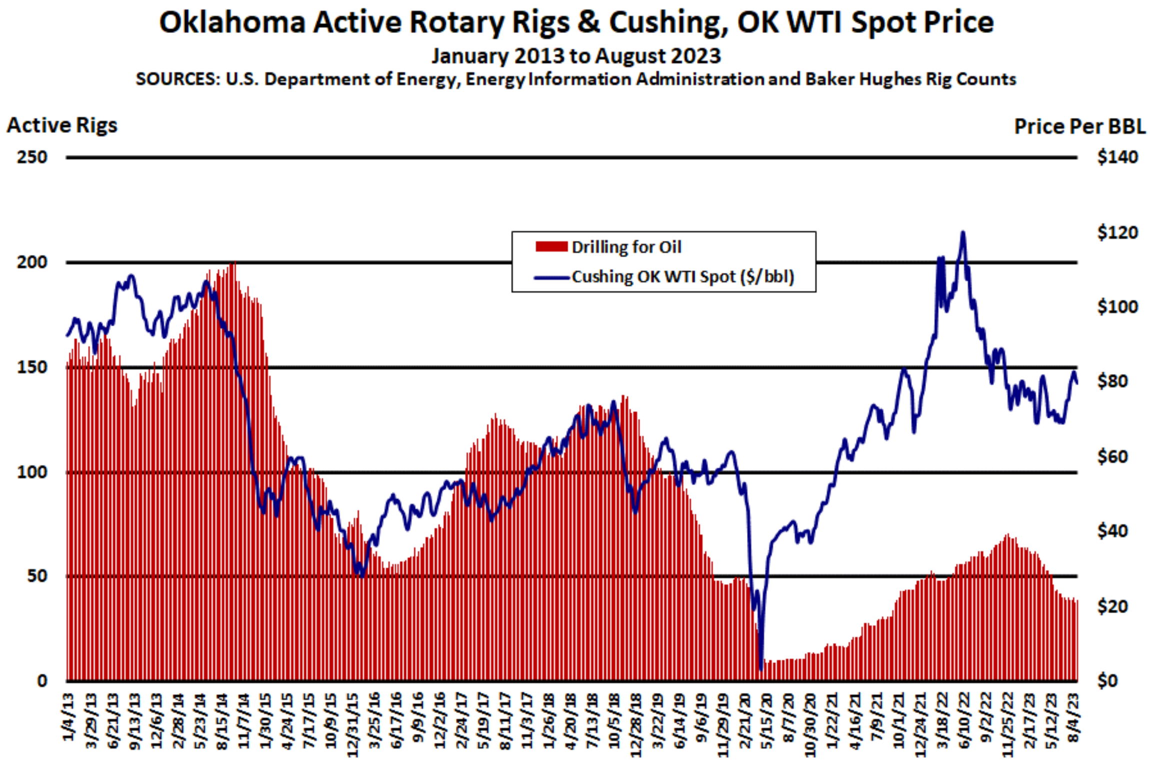
After climbing above growth neutral for five straight months, the Creighton University Mid-America Business Conditions Index, a leading economic indicator for the nine-state region stretching from Minnesota to Arkansas, fell below the growth neutral threshold for a second straight month. The Business Conditions Index, which uses the identical methodology as the national ISM and ranges between 0 and 100 with 50.0 representing growth neutral, increased to 49.5 in August from 46.1 in July.

“The Mid-America regional manufacturing economy is definitely losing momentum. Government data indicate that the regional manufacturing economy has lost jobs for the last three months,” said Ernie Goss, Ph.D., director of Creighton University’s Economic Forecasting Group and the Jack A. MacAllister Chair in Regional Economics in the Heider College of Business.

“Creighton University’s survey results indicate that contrary to the Federal Reserve consensus, a recession in 2023 is still ‘on the table.’ Approximately 45 percent of supply managers expect a recession in the second half of 2023,” said Goss.

Oklahoma’s Business Conditions Index slumped below growth neutral for a third straight month. The August index increased to 46.9 from 41.1 in July. Components of the overall August index were: new orders at 45.4, production or sales at 47.0, delivery lead time at 52.1, inventories at 46.8 and employment at 43.0.

“According to U.S. International Trade Association data, Oklahoma exports fell by 10.8 percent in the first five months of 2023 compared to 2022 during the same time period. The state’s leading export, machinery manufacturing, contracted by 9.2 percent from 2022 to 2023,” noted Goss.



Definition & Importance

Crude oil is an important commodity in the global market. Prices fluctuate depending on supply and demand conditions in the world. Since oil is such an important part of the economy, it can also help determine the direction of inflation. In the U.S. consumer prices have moderated whenever oil prices have fallen but have accelerated when oil prices have risen. The U.S. Energy Information Administration (EIA) provides weekly information on petroleum inventories in the U.S., whether produced here or abroad.

The Baker Hughes rig count is an important indicator for the energy industry and Oklahoma. When drilling rigs are active, they consume products and services produced by the oil service industry. The active rig count acts as a leading indicator of demand for products used in drilling, completing, producing, and processing hydrocarbons.

West Texas Intermediate (WTI-Cushing) is a light crude oil produced in Texas and southern Oklahoma which serves as a reference or "marker" for pricing a number of other crude streams and which is set in the domestic spot market at Cushing, Oklahoma.

Background

The discovery of oil transformed Oklahoma's economy. By the time Oklahoma became a state in 1907, it was the largest oil producer in the nation. Excluding federal offshore areas, Oklahoma was the 6th-largest crude oil producer among the states in 2022, accounting for over 4 percent of the nation's crude oil production (at 445,000 barrels per day). Crude oil wells and gathering pipeline systems are concentrated in central Oklahoma. The state's largest producing field, and the 11th largest in the United States, the Sho-Vel-Tum field, in eastern Stephens and western Carter Counties has continuously produced crude oil since its discovery in 1905.

The city of Cushing, in central Oklahoma, is home to about 14 percent of the nation's commercial crude oil storage capacity and is a major crude oil trading hub connecting Gulf Coast producers to Midwest refining markets. In addition to Oklahoma crude oil, the Cushing hub receives supply from several major pipelines that originate in Texas. Traditionally, the Cushing Hub has pushed Gulf Coast and Mid-Continent crude oil supply north to Midwest refining markets. However, production from those regions is in decline, and an underused crude oil pipeline system has been reversed to deliver rapidly expanding heavy crude oil supply produced in Alberta, Canada to Cushing, where it can access Gulf Coast refining markets. For this reason, Cushing is the designated delivery point for the New York Mercantile Exchange (NYMEX) crude oil futures contracts. Crude oil supplies from Cushing that are not delivered to the Midwest are fed to Oklahoma's five refineries. As of January 2022, those refineries had a combined distillation capacity of more than 524,000 barrels per day—roughly 3 percent of the total U.S. refining capacity.

Current Developments

The U.S. Energy Information Administration (EIA) expects global oil inventories to decline by almost a half million barrels per day in the 2nd half of 2023, causing oil prices to rise over the remainder of the year. In its September *Short-Term Energy Outlook* (STEO), EIA forecasts international benchmark Brent crude oil price will average $93 per barrel in the 4th quarter of this year, up from its August forecast of less than $88 per barrel. Oil production cuts from OPEC+ members, including Saudi Arabia's recently announced extension of additional voluntary production cuts, contribute to EIA's forecasts for decreasing supplies.

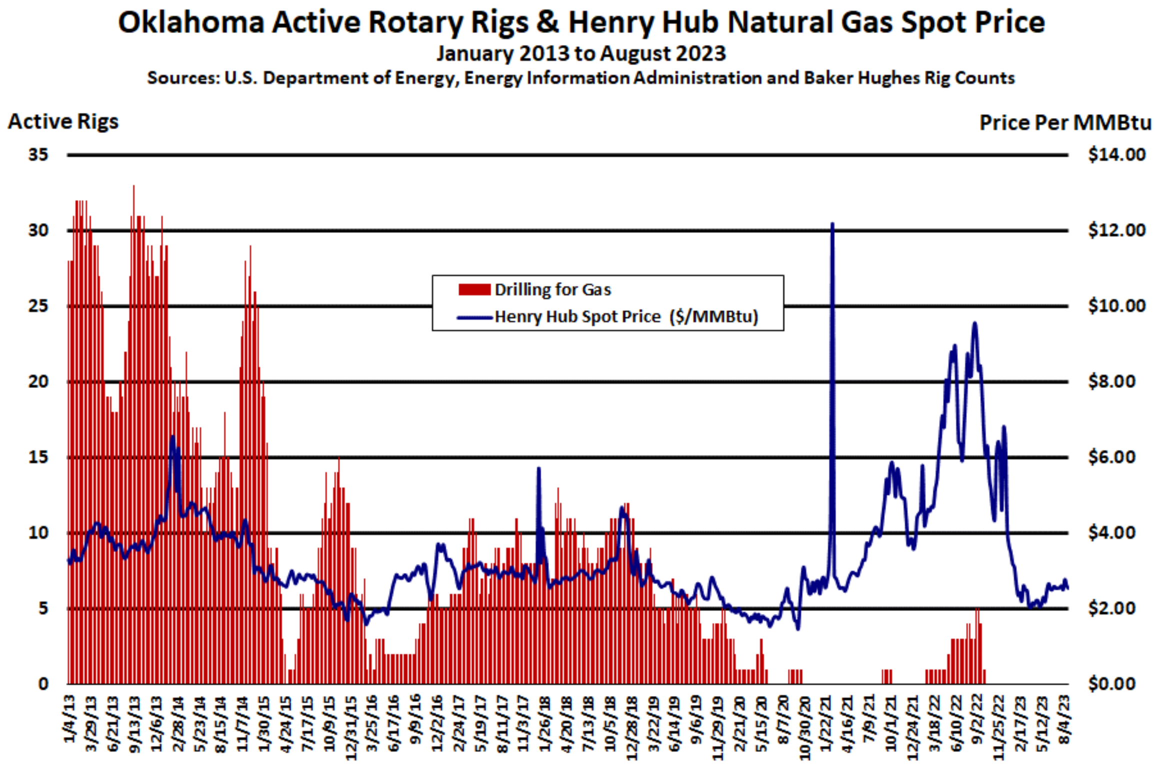
"We expect crude oil prices to rise as global oil inventories decrease through the end of this year," said EIA Administrator Joe DeCarolis. "High oil prices combined with uncertain economic conditions could lessen global demand for petroleum products through 2024."

Crude production in Oklahoma decreased over the month in June—the most recently reported monthly data point. Statewide field production of crude oil was at a preliminary level of 13,199,000 bbl in June, down 576,000 bbl (-4.2 percent) from the upwardly revised May level of 13,775,000 bbl, according to data reported by the EIA. Compared to a year ago, Oklahoma crude production was up 630,000 bbl (5.0 percent) from the June 2022 production level of 12,569,000 bbl. For 2022, statewide crude production was at a level of 151,535,000 bbl, up 3,698,000 bbl (2.5 percent) from the 2021 production level of 147,837,000 bbl.

West Texas Intermediate (WTI-Cushing) crude oil for delivery at Cushing, Oklahoma, averaged $81.39/bbl in August, up $5.32/bbl from the July average of $76.07/bbl. EIA expects the WTI-Cushing crude oil price to average $87.68/bbl during 4th quarter 2023, up from its previous forecast of $82.65/bbl.

According to oil field services company Baker Hughes, oil-directed rig activity in the United States, which reflects crude oil drilling, was down 8 rigs to a level of 512 for the week ending August 25, 2023, while the nation's total rig count was down 10 to a level of 632. Compared to a year ago, the nation's total rig count was 133 less than 765 rigs reported on August 26, 2022.

For the week ending August 25, 2023, Oklahoma's total active rig count was at a level of 39, down 1 rig over the week, according to Baker Hughes. Oil-directed rigs accounted for all of total rig activity in August. Over the year, Oklahoma's active rig count was down 26 from 65 active rigs reported operating on August 26, 2022.



Definition & Importance

The U.S. Energy Information Administration (EIA) provides weekly information on natural gas stocks in underground storage for the U.S., and three regions of the country. The level of inventories helps determine prices for natural gas products. Natural gas product prices are determined by supply and demand—like any other good or service. During periods of strong economic growth, one would expect demand to be robust. If inventories are low, this will lead to increases in natural gas prices. If inventories are high and rising in a period of strong demand, prices may not need to increase at all, or as much. However, during a period of sluggish economic activity, demand for natural gas may not be as strong. If inventories are rising, this may push down oil prices.

The Henry Hub in Erath, Louisiana is a key benchmark location for natural gas pricing throughout the United States. The Henry Hub is the largest centralized point for natural gas spot and futures trading in the United States. The New York Mercantile Exchange (NYMEX) uses the Henry Hub as the point of delivery for its natural gas futures contract. Henry Hub "spot gas" represents natural gas sales contracted for *next day* delivery and title transfer at the Henry Hub. The settlement prices at the Henry Hub are used as benchmarks for the entire North American natural gas market. Approximately 49 percent of U.S. wellhead production either occurs near the Henry Hub or passes close to the Henry Hub as it moves to downstream consumption markets.

Background

Oklahoma's proved natural gas reserves are the 3rd-largest in the nation, after Texas and Pennsylvania. The state has 8 percent of the nation's total proved reserves and contains all or part of 14 of the 100 largest U.S. natural gas fields, as measured by proved reserves. In 2022, Oklahoma was the nation's 5th-largest producer of marketed natural gas. Statewide annual natural gas production was at an all-time high of more than 3.0 trillion cubic feet in 2019.

In 2022, Oklahoma was the nation's 6th-largest consumer of natural gas on a per capita basis. The electric power sector and the industrial sector together use slightly more than four-fifths of the natural gas delivered to consumers in Oklahoma, and the residential and commercial sectors consume almost all the rest.

Current Developments

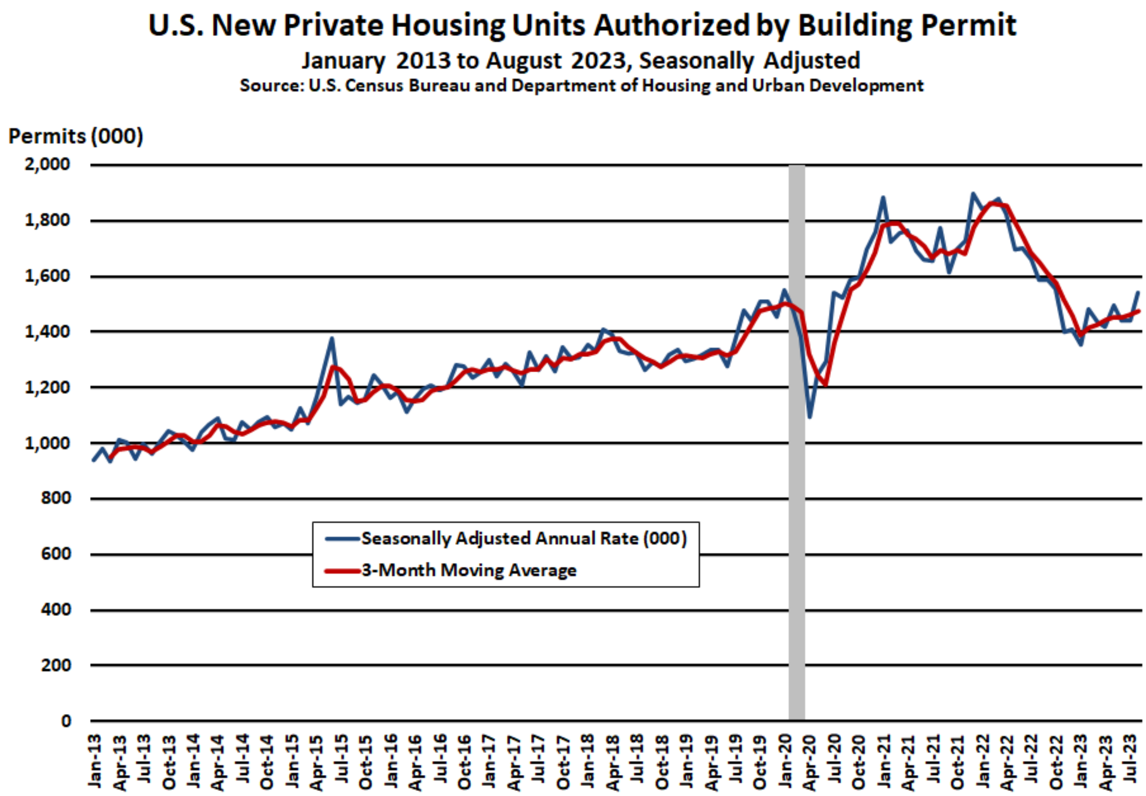
In the August *Short-Term Energy Outlook* (STEO), the U.S. Energy Information Administration (EIA) noted that associated natural gas production growth in the Permian Basin, driven by higher oil prices, has supported U.S. dry natural gas production in 2023 despite a decline in natural gas prices. EIA expects production to average about 104 billion cubic feet per day (Bcf/d) through the end of 2024, compared with 103 Bcf/d in 2nd quarter 2023. Flat production largely reflects continuing growth in associated natural gas production offset by declines in natural gas directed drilling.

Oklahoma natural gas production decreased over the month in June. Statewide natural gas gross withdrawals were at a preliminary level of 233,375 million cubic feet (MMcf) in June, down 4,150 MMcf (-1.7 percent) from the previous month's downwardly revised level of 237,525 MMcf. Over the year, statewide natural gas production was up 3,038 MMcf (1.3 percent) from the June 2022 level of 230,337 MMcf. For 2022, total statewide natural gas production was at a level of 2,744,470 MMcf, up 172,637 MMcf (6.7 percent) from the 2021 production level of 2,571,833 MMcf.

In August, the Henry Hub spot price averaged $2.58 per million British thermal units (MMBtu), up 3 cents from $2.55/MMBtu in July.

According to Baker Hughes, for the week ending August 25, 2023, the national natural gas rig count was down 2 rigs to a level of 115 over the week and down 43 rigs over the year.

Oklahoma drillers reported no active natural gas-directed rigs for the week ending August 25, 2023, unchanged over the month, according to Baker Hughes.



NOTE: Shaded area represents National Bureau of Economic Research defined recession period.

Definition & Importance

The U.S. Census Bureau and the Department of Housing and Urban Development jointly provide monthly national and regional data on the number of new housing units authorized by building permits; authorized, but not started; started; under construction; and completed. The data are for new, privately-owned housing units (single and multifamily), excluding "HUD-code" manufactured homes. Because permits precede construction, they are considered a leading indicator for the residential construction industry and the overall economy. Most of the construction begins the same month the permit is issued. The remainder usually begins construction during the following three months; therefore, we also use a three-month moving average.

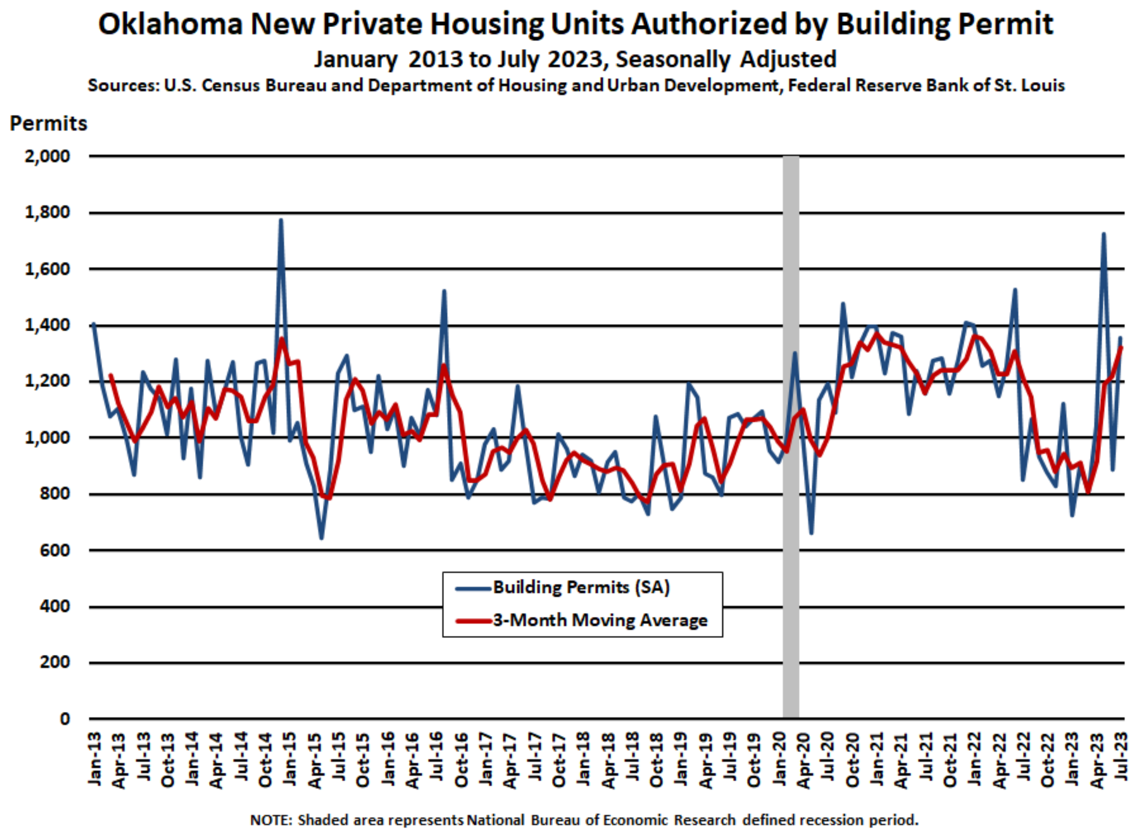
While home construction represents a small portion of the housing market, it has an outsize impact on the economy. Each home built creates an average of three jobs for a year and about $130,000 in taxes, according to the National Association of Home Builders. Overall, homebuilding fell to its lowest levels in 50 years in 2009, when builders began work on just 554,000 homes.

Current Developments

U.S. applications to build, a sign of future residential construction activity, surged in August amid a severe shortage of previously owned houses. Privately-owned housing units authorized by building permits in August were at a seasonally adjusted annual rate of 1,543,000, 6.9 percent above the revised July rate of 1,443,000, but 2.7 percent below the August 2022 rate of 1,586,000, according to the U.S. Census Bureau and the U.S. Department of Housing and Urban Development.

Permits for single-family homes increased 2.0 percent to a rate of 949,000 units in August, the highest since May 2022. Permits for multi-family housing projects jumped 14.8 percent to a rate of 535,000 units.

The National Association of Home Builders/Wells Fargo Housing Market Index (HMI) dropped below the break-even mark of 50 in September for the first time in five months.



Definition & Importance

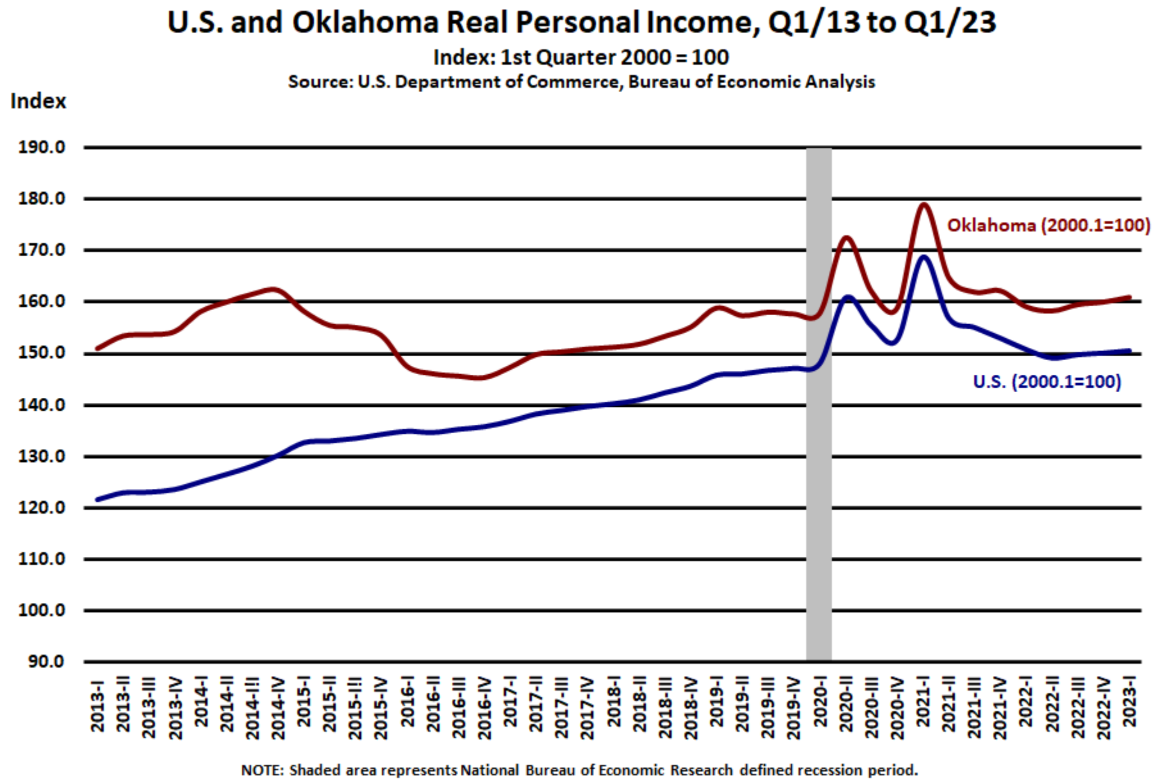
The data services of the Federal Reserve Bank of St. Louis produce a seasonally adjusted series including monthly state level data on the number of new housing units authorized by building permits. These adjustments are made using the X-12 Procedure of SAS to remove the seasonal component of the series so that non-seasonal trends can be analyzed. This procedure is based on the U.S. Bureau of the Census X-12-ARIMA Seasonal Adjustment Program.

Current Developments

Statewide residential permitting climbed in July, as a surge in applications to build apartments boosted total residential permitting. Total residential permitting in July was at a seasonally adjusted level of 1,357, up 470 (53.0 percent) from the downwardly revised June level of 887, and up 508 (59.8 percent) from the July 2022 level of 849 permits, according to figures from the U.S. Census Bureau and the Federal Reserve Bank of St. Louis.

In July, permitting for single family homes was at a seasonally adjusted level of 817 units, down 10 (-1.2 percent), from a level of 827 in the previous month. Multi-family permitting was at a seasonally adjusted level of 540 in July, up 481 (810.5 percent), from the previous month's level of 59 permits. Single-family permitting accounted for 60.2 percent of total residential permitting activity in July while the more volatile multi-family permitting accounted for 39.8 percent.

In 2022, statewide residential construction slipped from a 15-year high set in 2021. Oklahoma total residential permitting for 2022 was at a seasonally adjusted level of 13,533 permits. This is 1,705 fewer permits (-11.2 percent) less than the 15,238 total permits issued during 2021.



Definition & Importance

Personal income is a broad measure of economic activity and one for which relatively current data are available. Personal income includes earnings, property income such as dividends, interest, and rent and transfer payments, such as retirement, unemployment insurance, and various other benefit payments. It is a measure of income that is available for spending and is seen as an indicator of the economic well-being of the residents of a state. Earnings and wages make up the largest portion of personal income.

To show the vastly different levels of total personal income for the U.S. and Oklahoma on the same chart, these data have been converted to index numbers. This chart shows a comparison of Oklahoma and U.S. growth in real personal income with 1st quarter 2000 as the base year.

Current Developments

U.S. consumer spending increased by the most in six months in July as Americans bought more goods and services, although personal income showed some weakness. Personal income increased $45.0 billion (0.2 percent at a monthly rate) in July, according to estimates by the Bureau of Economic Analysis (BEA). Disposable personal income (DPI), personal income less personal current taxes, increased $7.3 billion (less than 0.1 percent) and personal consumption expenditures (PCE) increased $153.8 billion (0.8 percent). PCE price index for July increased 0.2 percent. Food prices increased 0.2 percent and energy prices increased 0.1 percent. Excluding food and energy, the PCE price index increased 0.2 percent.

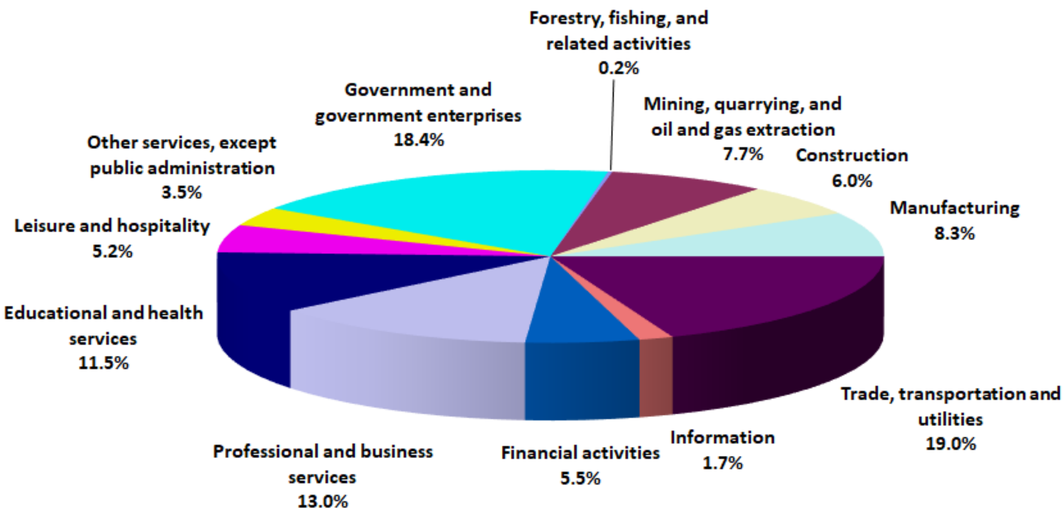
In July, outlays on goods rose 0.7 percent as purchases of durable goods increased 0.7 percent. Non-durable goods spending grew 0.7 percent. Spending on services rose 0.8 percent, driven by spending on financial services, housing and utilities, restaurants and health care.

The personal savings rate—personal saving as a percentage of disposable personal income—fell to 3.5 percent in July, the lowest rate since November 2022.

Oklahoma Nonfarm Industry Contribution to Earnings

First Quarter 2023

Source: U.S. Department of Commerce, Bureau of Economic Analysis



Definition & Importance

Quarterly estimates of state personal income are seasonally adjusted at annual rates by the Bureau of Economic Analysis (BEA). Quarterly personal income estimates are revised on a regular schedule to reflect more complete information than the data that were available when the estimates were initially prepared and to incorporate updated seasonal factors.

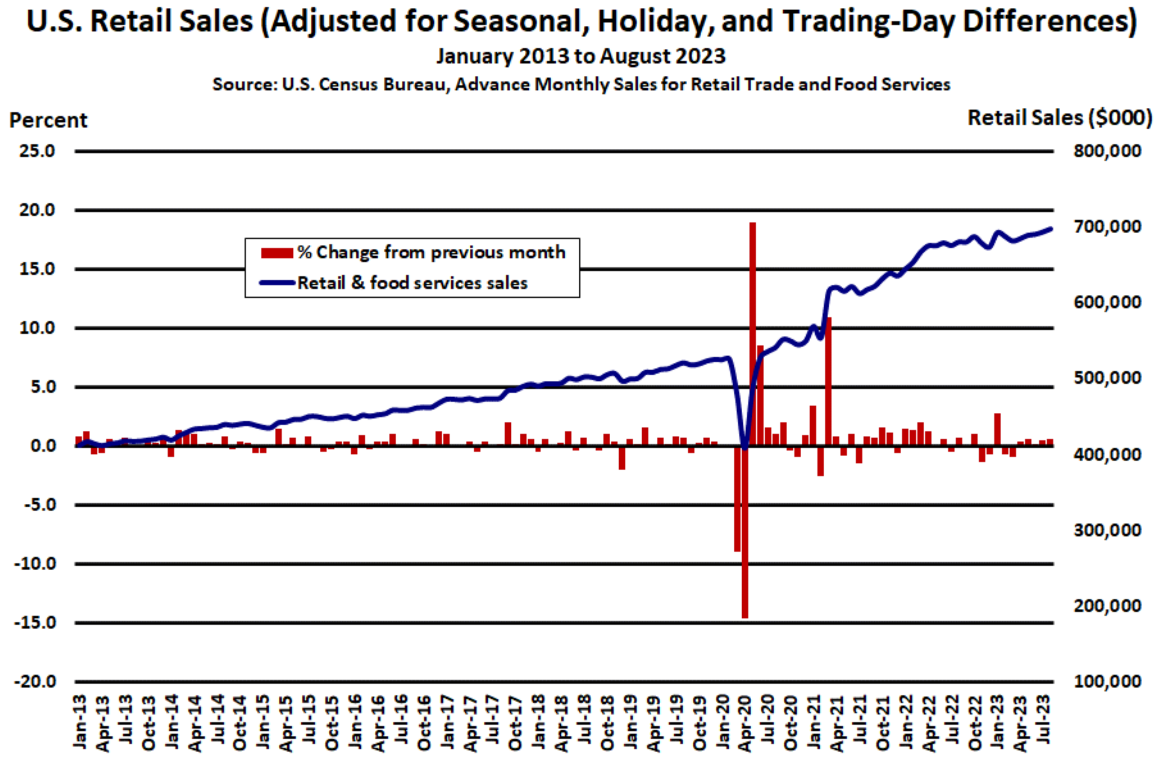
Current Developments

State personal income—a measure of nationwide income calculated as the sum of personal income of all states and the District of Columbia—increased in 48 states and the District of Columbia in the 1st quarter of 2023, with the percent change ranging from 11.4 percent in Maine to –1.0 percent in Indiana, according to estimates by the U.S. Bureau of Economic Analysis (BEA).

Oklahoma's personal income increased at a 6.2 percent rate in the 1st quarter of 2023, to a level of $230.4 billion, ranking the state 26th among all states. For the 4th quarter of 2022, Oklahoma's personal income was revised upward to $226.9 billion (5.5 percent) from the previous estimate of $226.3 billion (5.0 percent).

Earnings increased in all 50 states and the District of Columbia, growing 4.6 percent nationally. The percent change in earnings ranged from 12.4 percent in North Dakota to 0.1 percent in Arkansas. In Oklahoma, earnings increased 4.0 percent in the 1st quarter of 2023.

Earnings increased in 19 of the 24 industries for which BEA prepares quarterly estimates. Professional, scientific, and technical services; state and local government; and health care and social assistance were the leading contributors to the overall increase in earnings. Increases in farm earnings was the leading contributor to growth in personal income in four of the five fastest-growing states including Nebraska, North Dakota, Iowa, and South Dakota. In Oklahoma, State and local government; construction; and transportation and warehousing were the leading contributors to the overall growth in earnings in the 1st quarter of 2023.



Definition & Importance

Retail sales measure the total receipts at stores that sell merchandise and related services to final consumers. Sales are by retail and food services stores. Data are collected from the Monthly Retail Trade Survey conducted by the U.S. Bureau of the Census. Essentially, retail sales cover the durables and nondurables portions of consumer spending. Consumer spending accounts for roughly two-thirds of the U.S. GDP and is therefore essential to Oklahoma's economy. Retail sales account for around one-half of consumer spending and economic recovery calls for consumption growth.

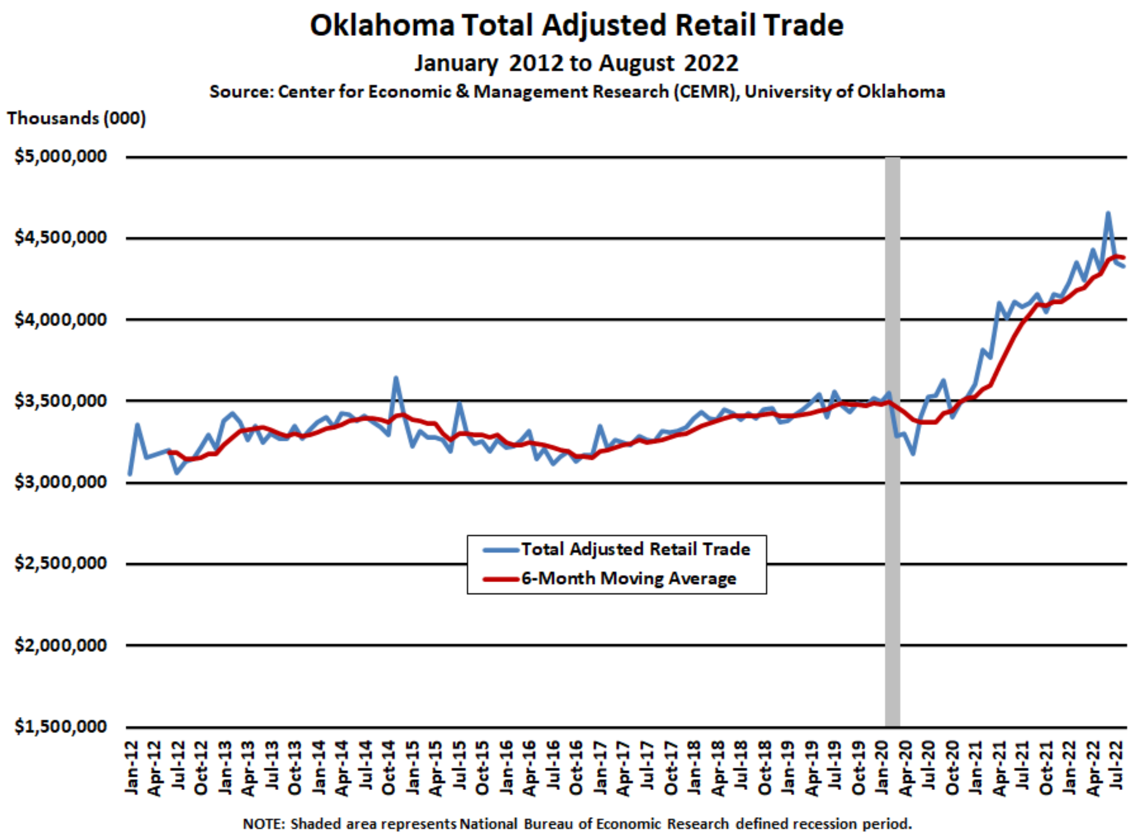
Current Developments

Spending at U.S. retailers rose modestly in August, as a jump in the price of gasoline boosted receipts at service stations but also cut into household budgets. Advance estimates of U.S. retail and food services sales for August 2023, adjusted for seasonal variation and holiday and trading-day differences, but not for price changes, were $697.6 billion, up 0.6 percent from the previous month, and up 2.5 percent above August 2022, according to the U.S. Census Bureau. Total sales for the June 2023 through August 2023 period were up 2.2 percent from the same period a year ago. The June 2023 to July 2023 percent change was revised from up 0.7 percent to up 0.5 percent.

Sales at motor dealerships increased 0.3 percent in August, after sinking 0.4 percent in July. Receipts at gasoline stations soared 5.2 percent, on higher pump prices. Excluding sales at gasoline stations and on cars and parts, retail sales rose only 0.2 percent in August.

Receipts at furniture stores dropped 1.0 percent in August. But electronics and appliance store sales rose 0.7 percent, while clothing store sales increased 0.9 percent. Receipts at building material and garden equipment supplies dealers gained 0.1 percent. Online sales were unchanged after accelerating 1.5 percent in July.

The less volatile "core" or retail-control group sales which are used to calculate gross domestic product, and strips out automobiles, gasoline, building materials, and food services sales increased just 0.1 percent in August, following a revised 0.7 percent increase in July.



Definition & Importance

The Center for Economic and Management Research (CEMR) Price College of Business, at the University of Oklahoma produces the Oklahoma Monthly Retail Sales Series containing monthly estimates of retail sales for Oklahoma, the Oklahoma City, Tulsa, and Lawton Metropolitan Statistical Areas and 48 selected cities in Oklahoma. The series is based on sales tax collection data provided by the Business Tax Division, Oklahoma Tax Commission (OTC). In order to take out monthly volatility, we have used a six-month moving average.

Current Developments

Statewide retail spending declined in August, as Oklahomans spent less at the pump and on other discretionary spending items. Total adjusted retail trade in August was at a level of $4.33 billion, down 0.4 percent from the previous month's revised level of $4.35 billion. Over the year, total adjusted retail trade was up 5.6 percent from the August 2021 level of $4.10 billion. Excluding estimated gasoline sales, total retail sales for August increased 0.4 percent over the month.

In August, total durable goods sales increased 0.5 percent, as all but one of the six durable goods categories reported rising receipts over the month. Furniture (2.4 percent); auto accessories & repair (0.8 percent); miscellaneous durable goods (0.5 percent); used merchandise (0.2 percent) and lumber & hardware (0.1 percent) reported gains over the month. The only declining durable goods category in August was computer, electronics & music stores (-0.4 percent).

Non-durable goods expenditures declined 0.8 percent in August, as estimated gasoline sales dropped 6.2 percent over the month on lower pump prices. Other declining non-durable goods categories in August were drug stores (-1.5 percent); liquor stores (-1.8 percent); and miscellaneous non-durable goods (-0.3 percent). Advancing non-durable goods categories in August were apparel (1.4 percent); eating & drinking places (0.6 percent); general merchandise stores (0.6 percent); and food stores (0.1 percent).